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**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Application Number	10/675,639
Filing Date	September 29, 2003
First Named Inventor	Adjakple et al.
Art Unit	2661
Examiner Name	Not Yet Known
Attorney Docket Number	I-2-0400.1US

Total Number of Pages in This Submission

ENCLOSURES (Check all that apply)

- | | | |
|--|---|---|
| <input type="checkbox"/> Fee Transmittal Form | <input type="checkbox"/> Drawing(s) | <input type="checkbox"/> After Allowance communication to Technology Center (TC) |
| <input type="checkbox"/> Fee Attached | <input type="checkbox"/> Licensing-related Papers | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences |
| <input type="checkbox"/> Amendment/Reply | <input type="checkbox"/> Petition | <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) |
| <input type="checkbox"/> After Final | <input type="checkbox"/> Petition to Convert to a Provisional Application | <input type="checkbox"/> Proprietary Information |
| <input type="checkbox"/> Affidavits/declaration(s) | <input type="checkbox"/> Power of Attorney, Revocation | <input type="checkbox"/> Status Letter |
| <input type="checkbox"/> Extension of Time Request | <input type="checkbox"/> Change of Correspondence Address | <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): |
| <input type="checkbox"/> Express Abandonment Request | <input type="checkbox"/> Terminal Disclaimer | Communication Re Favorable IPER By IPEA/US In Corresponding International Application |
| <input type="checkbox"/> Information Disclosure Statement | <input type="checkbox"/> Request for Refund | |
| <input type="checkbox"/> Certified Copy of Priority Document(s) | <input type="checkbox"/> CD, Number of CD(s) _____ | |
| <input type="checkbox"/> Response to Missing Parts/Incomplete Application | Remarks | |
| <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | | |

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Anthony L. Venezia	Reg. No. 48,382
	Volpe and Koenig, P.C.	
Signature		
Date	06/24/2004	

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Anthony L. Venezia		
Signature		Date	06/24/2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Adjakple et al.

Application No.: 10/675,639

Confirmation No.: 6061

Filed: September 29, 2003

For: REFERENCE TRANSPORT CHANNEL
ON/OFF STATUS DETECTION AND
RESELECTION

Group: 2661

Examiner: Not Yet Known

Our File: I-2-0400.1US

Date: June 24, 2004

**COMMUNICATION RE FAVORABLE IPER BY
IPEA/US IN CORRESPONDING INTERNATIONAL APPLICATION**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This communication is to advise the Examiner of the favorable International Preliminary Examination Report (IPER) issued by the United States Patent and Trademark Office acting as International Preliminary Examination Authority in a corresponding international application. A copy of the IPER is enclosed.

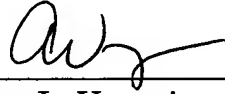
The original PCT claims correspond to the claims in this U.S. application. A copy of the approved claims as published is also enclosed.

Applicant: Adjakple et al.
Application No.: 10/431,089

In view of the fact that PCT claims 1 – 33 have all been found to meet the international standards of patentability, prompt examination and allowance are respectfully requested.

Respectfully submitted,

Adjakple et al.

By 
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Registration No. 48,382
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ALV/ccw
Enclosures (2)

RECEIVED
AM/PM

JUN 14 2004

VOLPE & KOENIG, P.C.

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
ANTHONY L. VENEZIA
VOLPE AND KOENIG, P.C.
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)

10 JUN 2004

Applicant's or agent's file reference

I-2-0400.1WO

IMPORTANT NOTIFICATION

International application No.

PCT/US03/30331

International filing date (day/month/year)

24 September 2003 (24.09.2003)

Priority date (day/month/year)

30 September 2002 (30.09.2002)

Applicant

INTERDIGITAL TECHNOLOGY CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US

Mail Stop PCT, Attn: IPEA/US

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

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Authorized officer

Derrick W. Ferris

Telephone No. 305-4750

Form PCT/IPEA/416 (July 1992)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

RECEIVED
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JUN 14 2004

VOLPE & KOENIG, P.C.

Applicant's or agent's file reference I-2-0400.1WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US03/30331	International filing date (day/month/year) 24 September 2003 (24.09.2003)	Priority date (day/month/year) 30 September 2002 (30.09.2002)	
International Patent Classification (IPC) or national classification and IPC IPC(7): H04L 12/26 and US Cl.: 370/335,342; 455/69,522			
Applicant INTERDIGITAL TECHNOLOGY CORPORATION			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>2</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>0</u> sheets.</p> <p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 27 April 2004 (27.04.2004)		Date of completion of this report 26 May 2004 (26.05.2004)	
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230		Authorized officer Derrick W. Ferris Telephone No. 305-4750	

Form PCT/IPEA/409 (cover sheet)(July 1998)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US03/30331

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed.
- ☒ the description:
pages 1-26 as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.
- ☒ the claims:
pages 27-33, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.
- ☒ the drawings:
pages 1-13, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.
- ☐ the sequence listing part of the description:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/30331

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>1-33</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-33</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-33</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-33 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest when monitoring of the reference channel reflects an OFF state, selecting a different channel from the plurality of multiplexed channels as the reference channel.

Claims 1-33 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry. In particular, the claims recite wireless multiplex channel features which have industrial applicability in a wireless system.

----- NEW CITATIONS -----
NONE

CLAIMS

What is claimed is:

1. In a wireless communication system wherein wireless communications between communication stations includes the transmission of a composite channel on which a plurality of channels are multiplexed, wherein an error rate measurement is performed on received signals on a reference channel selected from the plurality of multiplexed channels for use in selectively controlling transmission of the composite channel, a method comprising:

selecting a channel from the plurality of multiplexed channels as the reference channel initially used for error rate measurement;

monitoring the reference channel based on a quantitative data content criteria to determine an ON state when the quantitative data content criteria is met and an OFF state when the quantitative data content criteria is not met; and

when monitoring of the reference channel reflects an OFF state, selecting a different channel from the plurality of multiplexed channels as the reference channel.

2. The method of claim 1 wherein the channels are transport channels (TrCHs) and the reference channel is a reference transport channel (RTrCH), each TrCH has a transport time interval (TTI) of a given size of which a largest TTI size is an integer multiple, the TrCHs are multiplexed on a coded composite transport channel (CCTrCH), a block error rate measurement is performed on the RTrCH, and monitoring of the RTrCH is performed at a time interval corresponding to the TTI size of the RTrCH.

3. The method of claim 2 wherein the TrCHs each have a block error rate (BLER) requirement and a TrCH having a least restrictive BLER requirement is selected as the RTrCH initially used for error rate measurement.

4. The method of claim 3 wherein there are N number of TrCHs multiplexed onto the CCTrCH, the TrCHs are assigned a preference level for selection, first through Nth, the first preference level being highest, the preference level based first on the BLER requirement and then on TTI size, such that the first TrCH has a least restrictive BLER requirement and a smallest TTI size among TrCHs having the same BLER requirement, and the Nth TrCH has a most restrictive BLER requirement and a largest TTI size among TrCHs having the same BLER requirement, and the first TrCH is selected as the RTrCH initially used for error rate measurement.

5. The method of claim 4 wherein when the first TrCH is selected as the RTrCH and monitoring of the first TrCH channel reflects an OFF state, the second TrCH is then selected as the RTrCH.

6. The method of claim 4 wherein when an ith TrCH is selected as the RTrCH, where i is less than N, and monitoring of the ith TrCH channel reflects an OFF state, a different TrCH is then selected as the RTrCH from among the group of channels consisting of the first TrCH through the (i+1)th TrCH.

7. The method of claim 6 wherein when the ith TrCH is selected as the RTrCH, the first through the ith TrCHs are each monitored based on a quantitative data content criteria to determine an ON state when the quantitative data content criteria is met and an OFF state when the quantitative data content criteria is not met and when monitoring of the ith TrCH channel, such that if any TrCH with a preference level higher than the RTrCH is determined to be in an ON state, a TrCH that is determined to be in an ON state with highest preference level is then selected as the reselected RTrCH.

8. The method of claim 7 wherein monitoring of a TrCH is performed no less than once during each time interval corresponding to the TTI size of the TrCH.

9. The method of claim 7 wherein the determining when a TrCH is in an OFF state includes determining that data was not received on the TrCH for a predetermined number of consecutive TTIs of the TrCH.

10. The method of claim 7 wherein the determining when TrCH is in an ON state includes determining that data was received on the TrCH in at least one of a predetermined number of TTIs of the TrCH.

11. The method of claim 2 wherein a TrCH having the largest TTI size defines TTI boundaries based on that largest size for all TrCHs and the selecting a different TrCH from the plurality of multiplexed TrCH as the RTrCH becomes effective at one of such defined TTI boundaries.

12. The method of claim 2 wherein monitoring of the RTrCH is performed only upon data detection on any TrCH.

13. The method of claim 2 wherein the determining when RTrCH is in an OFF state includes determining that data was not received on the RTrCH for a predetermined number of consecutive TTIs of the RTrCH.

14. The method of claim 2 wherein the determining when RTrCH is in an ON state includes determining that data was received on the RTrCH in at least one of a predetermined number of TTIs of the RTrCH.

15. A receiver for a communication station for use in a wireless communication system wherein wireless communications between communication stations includes the transmission of a composite channel on which a plurality of channels are multiplexed, wherein an error rate

measurement is performed on received signals on a reference channel selected from the plurality of multiplexed channels for use in selectively controlling transmission of the composite channel, the receiver comprising:

composite channel received signal processing circuitry including:

error measurement circuitry configured to perform an error rate measurement on received signals on a selected reference channel of the composite channel;

monitoring circuitry configured to monitor the selected reference channel based on a quantitative data content criteria to determine an ON state when the quantitative data content criteria is met and an OFF state when the quantitative data content criteria is not met; and

reference channel selection circuitry configured to be responsive to said monitoring circuitry such that when monitoring of the reference channel reflects an OFF state, the reference channel selection circuitry selects a different channel from the plurality of multiplexed channels as the reference channel for said error measurement circuitry and said monitoring circuitry.

16. The invention of claim 15 wherein the channels are transport channels (TrCHs) and the reference channel is a reference transport channel (RTrCH), each TrCH has a Transport Time Interval (TTI) of a given size of which a largest TTI size is an integer multiple, the TrCHs are multiplexed on a coded composite transport channel (CCTrCH) and said error measurement circuitry is configured to perform a block error rate measurement on the RTrCH, and said monitoring circuitry is configured to monitor the RTrCH no less than once during each time interval corresponding to the TTI size of the RTrCH.

17. The invention of claim 16 wherein the TrCHs each have a block error rate (BLER) requirement and said reference channel selection circuitry is configured with a TrCH having a least restrictive BLER requirement as the default TrCH selection initially used as the RTrCH.

18. The invention of claim 17 wherein there are N number of TrCHs multiplexed onto the CCTrCH, and said reference channel selection circuitry is configured to assign a preference level for selection to the TrCHs, first through Nth, the first preference level being highest, based first on their BLER requirement and then on TTI size such that the first TrCH has a least restrictive BLER requirement and a smallest TTI size among TrCHs having the same BLER requirement, and the Nth TrCH has a most restrictive BLER requirement and a largest TTI size among TrCHs having the same BLER requirement, and the first TrCH is selected as the RTrCH initially used for error rate measurement.

19. The invention of claim 18 wherein said reference channel selection circuitry is configured such that when the first TrCH is selected as the RTrCH and monitoring of the first TrCH channel reflects an OFF state, the second TrCH is then selected as the reselected RTrCH.

20. The invention of claim 18 wherein said reference channel selection circuitry is configured such that when an ith TrCH is selected as the RTrCH, where i is less than N, and monitoring of the ith TrCH channel reflects an OFF state, a different TrCH is then selected as the reselected RTrCH from among the group of channels consisting of the first TrCH through the (i+1)th TrCH.

21. The invention of claim 20 wherein said monitoring circuitry is configured such that when an ith TrCH is selected as the RTrCH, where i is less than N, the first through the ith TrCHs are each monitored based on quantitative data content criteria to determine an ON state when the quantitative data content criteria is met and an OFF state when the quantitative data content criteria is not met, and said reference channel selection circuitry is configured such that if any TrCH with a preference level higher than the RTrCH is determined to be in an ON state, a TrCH that is

determined to be in an ON state with highest preference level is then selected as the reselected RTrCH.

22. The invention of claim 21 wherein said monitoring circuitry is configured such that monitoring of a TrCH is performed no less than once during each time interval corresponding to the TTI size of the TrCH.

23. The invention of claim 21 wherein said monitoring circuitry is configured such that the determining when a TrCH is in an OFF state includes determining that data was not received on the TrCH for a predetermined number of consecutive TTIs of the TrCH.

24. The invention of claim 21 wherein said monitoring circuitry is configured such that the determining when TrCH is in an ON state includes determining that data was received on the TrCH in at least one of a predetermined number of consecutive TTIs of the TrCH.

25. The invention of claim 16 wherein a TrCH having the largest TTI size defines TTI boundaries based on that largest size for all TrCHs and said reference channel selection circuitry is configured such that the selecting a different TrCH from the plurality of multiplexed TrCH as the RTrCH becomes effective at one of such defined TTI boundaries.

26. The invention of claim 16 wherein said monitoring circuitry is configured such that monitoring of the RTrCH is performed no less than once during each time interval corresponding to the TTI size of the RTrCH.

27. The invention of claim 16 wherein said monitoring circuitry is configured such that the determining when RTrCH is in an OFF state includes determining that data was not received on the RTrCH for a predetermined number of consecutive TTIs of the RTrCH.

28. The invention of claim 16 wherein said monitoring circuitry is configured such that the determining when RTrCH is in an ON state includes determining that data was received on the RTrCH in at least one of a predetermined number of consecutive TTIs of the RTrCH.

29. The invention of claim 16 wherein said monitoring circuitry is configured such that monitoring of the RTrCH is performed only upon data detection on any TrCH.

30. A base station for a 3GPP system including the receiver according to claim 16.

31. A wireless transmit/receive unit for a 3GPP system including the receiver according to claim 16.

32. A base station including the receiver according to claim 15.

33. A wireless transmit/receive unit including the receiver according to claim 15.